

## Abstracts

A121

macroeconomic evidence of TNF inhibitors in AS and to provide a critique of the methodology using Drummond's 10-point checklist. **METHODS:** A systematic literature search was conducted by one researcher among publications in peer-reviewed journals from January 2000 to April 2006 through electronic databases (Medline, Embase, and Cochrane Database). Only studies that provided economic evaluations of TNF inhibitors in AS were included in the review. **RESULTS:** The search yielded a total of eight cost studies. Only four met study inclusion criteria. Three of the four studies were cost-effectiveness analysis and two of the four compared etanercept and infliximab in patients with AS. The analytical time frame ranged from one year to 30 years. Costs and effects were appropriately discounted and sensitivity analysis was conducted to test the robustness of the model assumptions. Outcomes were presented as cost per quality-adjusted life years (QALYs) or cost per Assessment in Ankylosing Spondylitis Response Criteria. The incremental cost-utility ratio of etanercept or infliximab varied between US \$50,000–\$250,000 per QALY when compared with usual care. **CONCLUSION:** The costs per QALY ratios for the TNF inhibitors seem to be a little higher than the normally accepted societal thresholds (\$50,000/QALY). The heterogeneity in the cost-effectiveness results could be due to factors like patient demographics, funding source and methodological variables. Nonetheless, TNF inhibitors are a valuable treatment option and further pharmacoeconomic analyses need to be conducted to fully evaluate their potential in patients with AS.

## PAR14

#### UTILIZATION OF CHRONIC ARTHRITIS-RELATED HEALTH CARE SERVICES BY CHILDREN AND ADOLESCENTS IN A MEDICAID POPULATION

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**OBJECTIVES:** To assess the utilization patterns and costs for health care services for chronic arthritis treatment among children and adolescents enrolled in a state Medicaid program. **METHODS:** A cross-sectional, descriptive analysis of a state Medicaid administrative claims dataset was conducted. Medical services claims with a primary diagnosis code for rheumatic diseases (ICD-9-CM 696.0, 695.4, 710.X, 714.0, 714.2, 714.3X, and 720.X) during calendar year 2003 for recipients under 21 years of age were extracted. Prescription medication claims were extracted using de-identified unique recipient numbers obtained from medical services claims. Prevalence and medical services use rates were calculated by demographic categories. Costs were reported from the perspective of Medicaid. **RESULTS:** There were 171 children and adolescents who used medical services for care of chronic arthritis, at an overall rate of 0.8/1000 recipients. The highest rates by demographic groups occurred among females (1.0/1000), whites (0.9/1000), and recipients between 15–20 years of age (1.9/1000). Office visits accounted for the majority of medical services utilized (99%), at a rate of 3.4 visits/1000 recipients. Medicaid paid approximately \$415/child and adolescent recipient for chronic arthritis-related medical services during the year. Dollars paid for office visits accounted for 85% of the medical services costs at an average cost of \$86 per visit. A majority of the sample (63%) had a diagnosis for rheumatoid arthritis (RA)/juvenile rheumatoid arthritis (JRA). Among these children and adolescents, 62% had at least one prescription claim for a narcotic analgesic, NSAID, oral steroid, DMARD, or biologic agent at an average cost of \$74/claim. **CONCLUSION:** The prevalence and medical services utilization patterns for chronic arthritis among children and adolescent

recipients in this State Medicaid population differed by demographic characteristics. Office visits accounted for a majority of medical services use and dollars. Most of the children and adolescents with chronic arthritis had a diagnosis for RA/JRA.

## PAR15

#### USING MIXED TREATMENT COMPARISONS AND META-REGRESSION TO PERFORM INDIRECT COMPARISONS TO ESTIMATE THE EFFICACY OF BIOLOGIC TREATMENTS IN RHEUMATOID ARTHRITIS

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**OBJECTIVES:** Mixed treatment comparison is a generalisation of meta-analysis. Instead of the same treatment for a disease being tested in a number of studies, a number of different interventions are considered. Meta-regression is also a generalisation of meta-analysis which explains the heterogeneity between the treatment effects in the studies by regressing on study level covariables. Our focus is where there are several different treatments considered in a number of studies, and where differences in efficacy can be explained by differences in the study settings. **METHODS:** We develop methods for simultaneously comparing several treatments and adjusting for study level covariables by combining ideas from mixed treatment comparisons and meta-regression. We use a case study from rheumatoid arthritis. We identified relevant trials of biologic versus standard therapy or placebo and extracted the doses, comparators and patient baseline characteristics. Efficacy is measured using the log odds ratio of achieving ACR50 responder status at 6 months. A random-effects meta-regression model is fitted which adjusts the log odds ratio of an ACR50 response if treated with a biologic therapy compared to placebo for study level prognostic factors. The logit probability of a response is regressed onto a treatment indicator and prognostic covariables. A different random effect distribution on the log odds ratios is allowed for each different treatment. This enables the odds ratio for each treatment to be found as a function of the prognostic factors. **RESULTS:** The apparent differences in the randomised trials between TNF antagonists biologics are explained by differences in prognostic factors and the analysis suggest that these drugs as a class are not different from each other. **CONCLUSION:** We define a methodology for combining meta-regression techniques with ideas from mixed treatment comparisons. This allows different treatments for the same condition to be compared whilst adjusting for difference in the study populations.

## PAR16

#### A COMPARISON OF SWITCHING PATTERNS AMONG ANTI-TUMOR NECROSIS FACTORS (ANTI-TNFS) IN THE TREATMENT OF RHEUMATOID ARTHRITIS

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**OBJECTIVES:** To evaluate switching patterns among anti-TNFS in rheumatoid arthritis (RA) patients. **METHODS:** A retrospective study utilizing the PharMetrics managed-care claims database was conducted. The first anti-TNF encounter among RA patients between January 1, 2001 and January 1, 2004 was identified. Patients were required to have a minimum of 12-months of continuous plan eligibility prior to and following their index date. Three mutually exclusive cohorts were developed based on their index biologic therapy (infliximab, etanercept and adalimumab) plus methotrexate (MTX). The rates of switching and